PERFORMANCE SPECIFICATION
TACTICAL OCEAN DATA – Level 0 (TOD0)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 <u>Scope</u>. This specification defines the content and format for the U.S. National Imagery and Mapping Agency (NIMA) Tactical Ocean Data Level 0 (TOD0) product. References to the TOD0 specification in this document assume use of both the general and associated specification.

1.2 <u>Purpose</u>. The TOD0 is a vector-based digital product that portrays Naval Operating Areas (OPAREAS), Ranges, and Naval Exercise Areas (NAVEX) in a format suitable for computerized navigation. TOD0 is designed to be used in conjunction with the Digital Nautical Chart (DNC) for complete navigation information. The TOD0 also functions as a general purpose global database designed to support Geographic Information System (GIS) applications. This specification provides a description of the content, accuracy, data format, and design of the TOD0 database. In addition, it portrays strategic information to support naval operations.

2. APPLICABLE DOCUMENTS

2.1 <u>General</u>. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 <u>Government documents</u>.

2.2.1 <u>Specifications, standards, and handbooks</u>. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the current Department of Defense Index of Specifications and Standards (DODISS) and the supplement thereto, cited in a solicitation.

AMSC N/A   AREA MCGT

<u>DISTRIBUTION STATEMENT A</u> Approved for public release; distribution is unlimited.

SPECIFICATIONS

    DEPARTMENT OF DEFENSE

MIL-PRF-89049	-	General Performance Specification Vector Product Format (VPF) Products
MIL-PRF-89023	-	Performance Specification Digital Nautical Chart

STANDARDS

    DEPARTMENT OF DEFENSE

MIL-STD-2407	Vector Product Format, 28 June 1996

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2.2 Other government documents. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the current Department of Defense Index of Specifications and Standards (DODISS) and the supplement thereto, cited in a solicitation.

PRODUCT SPECIFICATIONS

    NATIONAL IMAGERY AND MAPPING AGENCY

PS/2DA/010	-	Product Specifications for Naval Operating Area (OPAREA) Charts

(Unless otherwise indicated, copies are available from National Imagery and Mapping Agency, Attn: SES Mail Stop P-54, 12310 Sunrise Valley Drive, Reston, VA 20191-3449.)

2.3 Order of precedence In the event of a conflict between the text of this document and the references cited herein (except for related associated detail specifications, specification sheets, or MS standards), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with Section 4.2.

3.2 Accuracy.

3.2.1 Absolute horizontal accuracy. The absolute horizontal accuracy requirement for TOD0 is 250 meters circular error at 90 percent probability.

3.2.2 Absolute vertical accuracy. No vertical accuracy requirement exists for this product.

3.2.3 Relative accuracy. NIMA does not have a formal relative accuracy objective defined for this product.

3.3 Datum.

3.3.1 Horizontal datum. The horizontal datum shall be referenced to WGS84.
If the source map/chart sheets are not referenced to WGS84, then they will be
converted from their original horizontal datum to WGS84.

3.3.2 Vertical datum. The Hydrographic Features on the TOD0 are referenced
to a vertical datum based on low water tide level and is called the Sounding Datum
or Hydrographic Datum. The specific low water datum used depends on the type of
tide in the area or on the number and magnitude of high and low tides in one tidal
cycle. Hydrographic datums used in the TOD0 will be specified in the Data Quality
coverage for each library.

3.4 Continuity All TOD0 data are subject to the portrayal criteria
specified in section 3.13.

a. The TOD0 is based on the feature content of Naval Operating Area (OPAREA)
Charts, Range Charts and Naval Exercise Area (NAVEX) Charts produced by NIMA. It
will, however, contain only the information that is not covered by the Digital
Nautical Chart (DNC). The TOD0 must be used in conjunction with the appropriate
DNC library coverage in the same area to ensure complete coverage for surface
navigation.

b. MIL-PRF-89049 and this associated specification contain the database
design and the feature content for a thematically layered, relationally structured
set of databases to support electronic chart display systems.

TABLE 1. Thematic layers for the TOD0 library

VPF Structure Level	TOD0 library thematic layers	Coverage name
Data Libraries	Aeronautical	aer
	Data Quality	dq
	Earth Cover	ecr
	Maritime	mar

3.5 Thematic layer organization. The TOD0 database is organized into
multiple data libraries containing thematic layers. Each thematic layer is stored
as a single coverage. The TOD0 data libraries contain two reference coverages and
up to four thematic layers, two of which correspond to the same coverages in the
DNC. See Table 5 of this specification for a list of the coverages contained in
the TOD0 product.

3.6 Dimensions. The minimum size of features collected from source
materials shall be in conformance with the portrayal criteria from MIL-PRF-89023
and the attribute values provided in the TOD0 data dictionary, Appendix B.
Features may be captured as points, lines, areas, or text.

3.7 Feature and attribute coding scheme. TOD0 implements the United States
National Imagery and Mapping Agency (NIMA) Profile of the Digital Geographic
Information Exchange Standard (DIGEST), Part 4, Feature and Attribute Coding
Catalogue (FACC) to define features, attributes, and values. See Appendix C for a

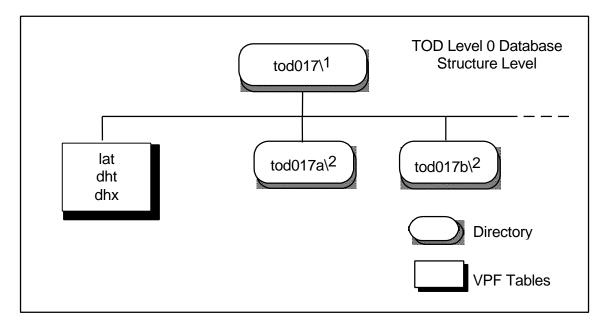listing of the FACC feature codes and attribute codes allowable for TOD0 thematic files.

3.8 Units of measure. Units of measurement in this specification are generally given in the metric system. With very few exceptions, units of measurement for the TOD0 will employ the metric system. Units of measure and increments for attributes shall be in accordance with the DIGEST Feature and Attribute Coding Catalogue (FACC).

3.9 TOD0 directory organization.

3.9.1 Databases. TOD0 consists of a number of individual databases, geographically coincident with the corresponding DNC databases. Each CD-ROM shall contain a single database directory and at least one data library. Each data library contains a mix of reference coverages and thematic coverages.

3.10 VPF structure levels, tables, and files. The following sections identify VPF structure information specific to TOD0. General database, library, and coverage level tables are defined in MIL-PRF-89049. The record layout and content of the TOD0 tables and files are described in Appendix B of this specification.

3.10.1 Database directory files.

a. The TOD0 product shall contain a number of database directories, each of which has its own unique database directory files and is contained on exactly one CD-ROM disc. The database name is represented as a directory name and shall be in lower case letters. The appropriate database directory shall be present on each CD-ROM at the root level. A representation of the tables and files appearing at the TOD0 database level are depicted in Figure 1.

TOD Level 0 Database Structure Level

tod017\1

lat
dht
dhx

tod017a\2

tod017b\2

Directory

VPF Tables

[1] This is a representative directory name for a TOD0 database.
[2] These are representative directory names for TOD0 libraries.

FIGURE 1.   TOD database directory

    b.   As described in MIL-PRF-89049, section 3.16.1 and Appendix B therein, the database directory contains three required metadata tables.   The required tables include the Library Attribute Table (lat), Database Header Table (dht),and Database Header Table variable length index (dhx) (see Table 2).   For TOD0, the structure and content of the Database Header Table (dht) deviates from the structure as defined in MIL-PRF-89049, section 3.16.1, and Appendix B therein.   Table 3 in this specification defines the structure and content of the TOD0 Database Header Table.

TABLE 2.   TOD0 database table and file names and description

Table or File Description	Table or File Name
TOD0 database directory	tod017[1]
Library Attribute Table	lat
Database Header Table	dht
Database Header Table variable length index	dhx
TOD0 library directories	tod017a[2]

[1]This is a representative directory name for a TOD0 database.

[2]This is a representative directory name for a TOD0 library.

TABLE 3. <u>Schema for TOD0 database header table (dht)</u>

```
{Header length}L;
Database Header Table;-;
id=I,1,P,Row Identifier,-,-,-,:
vpf_version=T,10,N,VPF version number,-,-,-,:
database_name=T,8,N,Directory name of this database,-,-,-,:
database_desc=T,100,N,Description of this database,-,-,-,:
media_standard=T,20,N,Media Standard,-,-,-,:
originator=T,50,N,Producer of this database,-,-,-,:
addressee=T,100,N,Address of the producer,-,-,-,:
media_volumes=T,4,N,Number of Volumes in this database,-,-,-,:
seq_numbers=T,*,N,The Sequential Number(s) in this database,-,-,-,:
num_data_sets=T,4,N,Number of Libraries,-,-,-,:
security_class=T,1,N,Security Classification,-,-,-,:
downgrading=T,3,N,Downgrading,-,-,-,:
downgrade_date=D,1,N,Date of downgrading,-,-,-,:
releasability=T,20,N,Releasability restrictions of data,-,-,-,:
transmittal_id=T,1,N,Unique Transmittal Identifier,-,-,-,:
edition_number=T,10,N,Edition Number of this database,-,-,-,:
edition_date=D,1,N,Date of edition,-,-,-,:;
declassification=T,*,N,Declassificaton Note,-,-,-,:;
class_justification=T,*,N,Justification for classification,-,-,-,:;
```

```
1\
9606\
tod017\[1]
Tactical Ocean Data Level 0 database over the northeast coast of North
America supporting tactical GIS applications.\[2]
ISO 9660\
NATIONAL IMAGERY AND MAPPING AGENCY\
ATTN: NIMA Customer Support/COD, Mail Stop P-38, 12310 Sunrise Valley
Drive, Reston, VA 22091-3449\
1\
1\
varies\
U\
N/A\
[Null]\
Distribution Limited\
1\
1\
00000000000000.\
[Null]\
[Null]
```

[1]This is a representative directory name for a TOD0 database.
[2]This is a representative description for a TOD0 database.

3.10.2 <u>Database and library naming conventions.</u>

a. The database name is represented as a directory name and shall be represented in six lower case letters. The first four characters are 'tod0' and the last two characters represent the disc number. The discs are numbered geographically, not sequentially. Hence, tod003 may be produced after tod004 if the data comprising the tod003 geographic area is issued on a later disc.

b. TOD0 library names shall be represented in seven lower case characters. The first six characters are the TOD0 database name. The seventh character is a single alphabetic character beginning with 'a' used to uniquely identify each data library contained in a TOD0 database.

3.10.3 <u>Library directory files</u>. The contents of each TOD0 library are stored in a directory, whose name shall be no more than seven lower case alphanumeric characters in length. The entire contents of one or more TOD0 libraries shall be contained on a CD-ROM. A representation of the tables and files present in a TOD0 library is provided in MIL-PRF-89049, Figures 4 and 5.

3.10.3.1 <u>Library metadata</u>. Each data library directory shall contain the four required metadata tables and associated narrative tables and indices. These include the coverage attribute table (cat), library header table (lht), geographic reference table (grt), data quality table (dqt), a lineage narrative table (lineage.doc) and variable length indices (dqx, lineage.dox, lhx). Content and format for the cat, lht, grt, dqt, and lineage.doc are defined in MIL-PRF-89049, section 3.16.2.1 and Appendix D. For TOD0, the structure and content of the Library Header Table (lht) deviates from the structure as defined in MIL-PRF-89049. Table 4 defines the structure and content of the TOD0 Library Header Table.

TABLE 4. <u>Schema for TOD0 library header table (lht)</u>

```
{Header length}L;
Library Header Table;-;
id=I,1,P,Row Identifier,-,-,-,:
product_type=T,12,N,Product Type,-,-,-,:
library_name=T,12,N,Name,-,-,-,:
description=T,100,N,Description of the library,-,-,-,:
data_struct_code=T,1,N,Data Structure Code,-,-,-,:
scale=I,1,N,Scale of the library,-,-,-,:
source_series=T,15,N,Series,-,-,-,:
source_id=T,30,N,Identifier of the source reference,-,-,-,:
source_edition=T,20,N,Edition number of the source,-,-,-,:
source_name=T,100,N,Name of library source,-,-,-,:
source_date=D,1,N,Source Date,-,-,-,:
security_class=T,1,N,Security Classification,-,-,-,:
downgrading=T,3,N,Downgrading,-,-,-,:
downgrading_date=D,1,N,Date of downgrading,-,-,-,:
releasability=T,20,N,Releasability,-,-,-,:;
declassification=T,*,N,Declassificaton Note,-,-,-,:;
class_justification=T,*,N,Justification for classification,-,-,-,:;
```

```
1\
TOD0\
tod017a\
OPAREA, NAVEX and Range data to be used in conjunction with the coa17 and
gen17 libraries from the accompanying dnc17 database. \1
8\
Various\
2DA\
Various\
Various\
Various\
00000000000000.\2
U\
N/A\
[NULL]\
Distribution Limited\
[Null]\
[Null]
```

Note: Each line represents the record value for each defined column.

[1]This is a representative description for a TOD0 library.

[2]Indicates earliest source date.

3.10.3.2 <u>Library reference coverages</u>. Each tiled TOD0 data library shall contain the Tile Reference Coverage (tileref) and Library Reference Coverage (libref). The tileref coverage shall be implemented as defined in MIL-PRF-89049, Appendix D. The optional text feature table shall not be implemented in TOD0. The libref coverage shall be implemented as defined by Appendix B in this specification.

3.10.3.3 <u>Use of TOD0 in conjunction with DNC</u>. The TOD0 data library is to be used in conjunction with the appropriate DNC library that contains the same coverage area. All DNC CDs will contain a BROWSE library, which is used to support overview displays at a global scale. Because BROWSE is already part of DNC, TOD0

will not contain a BROWSE Library, or a reference library as defined in MIL-PRF-89049.

    3.10.4 <u>Coverage directory files</u>.

    3.10.4.1 <u>Coverage metadata</u>. The coverage metadata tables and their content are described in MIL-PRF-89049, section 3.16.3.1. Product specific information for TOD0 is provided in Appendix B of this specification.

    3.10.4.2. <u>Data coverages</u>. There are up to three possible data coverage directories present in any TOD0 data library. Within a library, coverage directories shall not be included if data does not exist for that coverage within the library's geographic area. The contents of each TOD0 data coverage are stored in a directory whose name shall be represented in lower case letters with a three character name representative of the thematic layer name (i.e., aer for Aeronautical, ecr for Earth Cover). In addition, each TOD0 library can contain a data quality (dq) coverage. The dq coverage contains information about the accuracy of the source(s) that were used to produce TOD0.

    3.10.4.3 <u>Coverage topology</u>. The topology level of each coverage is specified in the coverage attribute table (cat) within each library, see MIL-PRF-89049,section 3.16.2.1 and Appendix D. Topology is not supported between coverages. The cat for each library is tailored based on the coverages actually present. Table 5 depicts the TOD0 cat containing all possible TOD0 coverages.

<div align="center">TABLE 5. <u>TOD0 coverage attribute table (cat)</u></div>

{Header length}L; Coverage Attribute Table;-; id=I,1,U,Row Identifier,-,-,-,: coverage_name[1]=T,8,P,Coverage name,-,-,-,: description=T,24,N,Coverage description,-,-,-,: level[2]=I,1,N,Topology level,-,-,-,:;		
1	libref	Library Reference	3
2	tileref	Tile Reference	3
3	aer	Aeronautical	3
4	dq	Data Quality	3
5	ecr	Earth Cover	0
6	mar	Maritime	3

    NOTES:

    1. This table depicts all coverages which may be present in a TOD0 library. Presence of these coverages will vary with data availability. If a library does not contain any data for a particular coverage, then the record describing the coverage will not be present.

    2. The number in the level column represents the topology level of each coverage.

3.10.4.4 <u>Standardized data content of coverages</u>. TOD0 features are organized into thematic coverages in a manner similar to the hydrographic family of NIMA vector products described in Section 3.8.1 of MIL-PRF-89049.

3.10.5 <u>Feature class structure level</u>. TOD0 feature classes are shown in Table 6. Only those feature classes containing data shall be present in the coverage. Descriptions of the feature classes, with the exception of those located in the Data Quality (dq) coverage, are found in Appendix B. For feature class descriptions of data quality features, see MIL-PRF-89049, Appendix E.

3.10.5.1 <u>Feature table structure and contents</u>. Feature tables and join tables will be implemented per MIL-PRF-89049. In addition to implementing the required feature-to-primitive links using join tables for all line and area feature classes, TOD0 also implements the feature-to-primitive links using join tables for all text feature classes.

3.10.5.2 <u>Related attribute tables</u>.

3.10.5.2.1 <u>Notes related attribute table</u>. Digital marginalia refers to the information that originally appeared in notes, tables, and graphs on the borders of the hardcopy chart sheets. For the TOD0, this information is included in the Notes Related Attribute Table (notes.rat) in each coverage. The notes.rat shall be implemented for all feature tables (except for ecrtext, dqline, dqarea, and dqtxt), when appropriate, in accordance with MIL-PRF-89049, section 3.16.4.2.1.1.

TABLE 6. <u>TOD0 thematic coverages and feature classes</u>

Coverage Name	Feature Classes			
	Point	Line	Area	Text
aer	aerop		aspa	
dq		dqline	dqvoida dqarea	dqtxt
ecr				ecrtext
mar	maritimp	maritiml	maritima	

3.10.5.3 <u>Text feature class</u>. A text feature class is composed of a text feature table (tft) and a text primitive (txt) table. This primitive table contains information that may be used to replicate text strings found on an original chart or other source for representation on a plot or digital display. All text (both at the feature and primitive level) will be limited to the characters found in the Latin alphabet primary code table, FIGURE 24 of MIL-STD-2407.

3.10.6 <u>Primitive Tables and associated files</u>. VPF uses the primitive tables defined in MIL-STD-2407 to model a feature's location, geometry and topology. See MIL-PRF-89049, section 3.16.5 for the format to be used for VPF primitive tables in TOD0. All coverages in TOD0 data libraries shall implement 2-dimensional (2D) geometry for the coordinates contained in the primitive tables. Note that, for the dq coverage, this is a deviation from the definition contained in MIL-PRF-89049.

3.11 <u>TOD0 tiling scheme</u>. Each TOD0 coverage is divided into a set of tiles using the World Geographic Reference System (GEOREF) described in DMA TM 8358.1. This system divides the surface of the earth into quadrangles, the sides of which

are specific arc lengths of longitude and latitude. Each quadrangle is identified by a simple systematic letter code giving positive identification with no risk of ambiguity.

3.11.1 <u>TOD0 tile sizes</u>. In the latitudes from 0-81 degrees, TOD0 is divided into 3° by 3° tiles. In the Polar Regions (latitudes from 81-90 degrees), TOD0 is divided into 4 9° by 90° degree tiles. The lower left (southwestern most) corner of each tile is identified using the GEOREF naming conventions described in MIL-PRF-89049, section 3.17. This GEOREF identifier is used as the name for the directory containing the primitives contained in that tile.

3.11.2 <u>Cross-tile topology</u>. Cross-tile topology ensures that topology is retained between the primitive tables across the tile boundaries. Topology across the tiles is maintained through the use of a reference tile ID in the edge and connected node primitive tables that establishes a "cross-tile" link over the tile partitions. This enables the database to function as a seamless unit for analysis purposes.

3.12 <u>Distribution medium</u>. The TOD0 shall be distributed on CD-ROM discs, each of which is a single TOD0 database corresponding to the DNC database over the same geographic area. The format of the CD-ROM discs conforms to ISO Standard 9660.

3.12.1 <u>Geographic organization</u>. The TOD0 shall be organized on multiple CD-ROM discs based on geographic regions of the world. There is no overlap present on adjoining discs.

3.12.2 <u>Database size</u>. The size of a TOD0 database is dependent on the complexity of the source used to produce the product and the number of particular charts included in the database. A single database will not exist on more than one CD-ROM.

3.13 <u>Cartographic considerations for TOD0 database</u>.

3.13.1. <u>Source</u>. OPAREA Charts, Range Charts and NAVEX Charts are generally used to provide the fundamental source data set.

3.13.2. <u>Compilation scale</u>. The compilation scale will vary based on the scale of hardcopy charts which varies depending on latitude and chart coverage.

3.13.3. <u>Minimum polygon size</u>. The minimum polygon size depicted in the TOD0 product will conform to the criteria set forward in the Performance Specification Digital Nautical Chart, MIL-PRF-89023.

3.13.4. <u>Limits</u>. Only limits pertaining to naval operations including the three and twelve nautical mile territorial limits will be collected from the applicable Operational Area Manual source charts. It is assumed all other limits will be portrayed in the accompanying DNC library.

3.14 <u>Security</u>.

3.14.1 <u>Classification</u>. TOD0 data shall be classified as follows:

a. OPAREA, Range, and Naval Exercise Charts are normally Unclassified-Limited Distribution or as specified in the contract.

3.15 CD ROM labeling and packaging. General CD-ROM labeling, labeling on the cardboard sleeve, or jewel caseliner/information booklet, as applicable shall be as described in MIL-PRF-89049. Items specific to TOD0 are shown below.

3.15.1 CD labeling. Labeling of the TOD0 CDs shall be in accordance with DMA PI 813-101 (therein see Figure 2 for unclassified TOD0s or Figure 3 for classified TOD0s).

3.15.1.1 Product specific items.

a. Product Logo: TOD0 CDs shall show the VPF logo.

b. Product Description: Tactical Ocean Data Level 0 (TOD0 TM)

c. Series: TOD0

d. Item: The three digit TOD0 CD number.

e. NIMA reference number format is TOD0nnn00, where nnn represents the three digit TOD0 CD number.

3.15.2 Information booklet. Information booklets shall be provided for TOD0 CDs. Labeling of the TOD0 information booklet covers shall be in accordance with NIMA NI 8955.1 (therein see Figure 6 for unclassified TOD0s or Figure 8 for classified TOD0s). When used in conjunction with the jewel case, the front cover of the information booklet also serves as the front cover of the case.

3.15.2.1 Information booklet TOD0 specific items. All information booklet TOD0 specific items are the same as those shown on the CD, see 3.15.1.1.

3.15.2.2 Information booklet text.

a. The interior pages of the information booklet shall contain the following statements:

Tactical Ocean Data Level 0 (TOD0)

The Tactical Ocean Data Level 0 (TOD0) provides worldwide databases of nautical information in Vector Product Format (VPF) that are contained on CD-ROM discs. The data content and coverage is intended to closely replicate NIMA's Naval Operating Area (OPAREA) Chart, Range Chart, and Naval Exercise Area (NAVEX) Chart series. TOD0 must be used in conjunction with the Digital Nautical Chart (DNC) to provide feature coverage necessary for surface navigation. The NIMA Notice to Mariners (NTM) supports the product with information on the NAVINFONET. For access to this information, a TOD customer identification number is required. Send request for your customer ID number to Headquarters, NIMA, ATTN: GIM.

This TOD0 was produced under DoD Specification MIL-PRF-89049/10, (24 Nov 1998).

Users with questions, corrections, additions, or comments about this or other NIMA Products or Services, please telephone the NIMA Customer Help Desk: 1-800-455-0899, Commercial 314-260-1236, or DSN 490-1236, or write: Director, National Imagery and Mapping Agency, ATTN: COT, Mailstop P-33, 12310 Sunrise Valley Drive, Reston, VA 20191-3449.

b. Source information (library, charts, NTM number) shall be shown as illustrated in the following example:

Note: This TOD0 contains libraries tod003a with OPAREA xxxxx and xxxxx as sources, corrected through Notice to Mariners 10/96, and tod003b with OPAREA xxxxx, xxxxx, xxxxx, and xxxxx as sources, corrected through Notice to Mariners 10/96.

4. VERIFICATION

4.1 Classification of inspection. The inspection requirements specified herein are classified as follows:

    a. First article inspection (see 4.2).

    b. Conformance inspection (see 4.3).

4.2 First article inspection. When a first article inspection is required (see 3.1), it shall be examined as specified in 4.3.1, and tested as specified in 4.3.2.

4.3 Conformance inspection. Quality conformance inspection shall include the examination of 4.3.1 and the tests of 4.3.2.

4.3.1 Examination. The database shall be examined for compliance with the requirements specified in section 3. Unless a waiver has been granted, non-compliance with any of the specified requirements shall constitute cause for rejection.

4.3.2 Tests. A CD-ROM sample determined by the contracting officer shall be tested for compliance in the following areas:

    a. Data verification on a byte-for-byte basis of disc master from original (raw, prepared, or premastered) data.

    b. Data verification on a sector-by-sector basis of each disc master or son against a pressed surrogate using error-correction coding.

    c. ISO 9660 and ISO 10149 compliance.

4.4 Government furnished material. The contractor shall not duplicate, copy, or otherwise reproduce the MC&G material for purposes other than those necessary for performance of the contract.

4.5 Government property surplus. At the completion of performance of the contract, the contractor, as directed by the contracting officer, shall either destroy or return to the Government all government-furnished MC&G material not consumed in the performance of the contract.

5. PACKAGING - See MIL-PRF-89049

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The TOD0 database is intended to supplement electronic chart display systems with Limited Distribution information portraying Naval Operating Areas, Ranges, and Exercise areas. The TOD0 is intended for use by military branches of the government.

6.1.1 Analysis limitation. Analytical use of TOD0 data at a scale greater than that of the original cartographic source nautical chart is not recommended.

6.2 Acquisition requirements. Acquisition documents will be in accordance with MIL-PRF-89049, section 6.2.

6.3 Supercession. This is the initial version of this document.

6.4 Subject term (key word) listing.

DNC
FACC
GEOREF
GIS
NAVEX Chart
OPAREA Chart
Range Chart
Thematic layer
WGS84

6.5 Standardization agreements.

Certain provisions of this specification are the subject of international standardization agreements. When amendment, revision, or cancellation of this specification is proposed that will modify the international agreement concerned, the preparing activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations.

6.6 USIGS Conceptual Data Model. The data content of this product is reflected in the United States Imagery and Geospatial Information System (USIGS) Conceptual Data Model. When amendment, revision, or cancellation of this specification is proposed which will result in additions, changes or deletions to the USIGS Conceptual Data Model, the preparing activity will take appropriate action through data standardization channels to change the USIGS Conceptual Data Model.

6.7 NIMA customer help desk. For questions concerning this or other NIMA products, services, or specifications, please telephone the NIMA Customer Help Desk at 1-800-455-0899, Commercial 314-260-1236, or DSN 490-1236

TACTICAL OCEANIC DATA LEVEL 0 (TOD0) DATA DICTIONARY ORGANIZATION

A.1. SCOPE.

A.1.1 <u>Scope</u>. This appendix provides information about the data dictionary organization for the TOD0 product. It is a mandatory part of the specification. The information contained herein is intended for compliance.

A.2. APPLICABLE DOCUMENTS

The TOD0 must be used in conjunction with the Digital Nautical Chart (DNC) to provide complete coverage of a given area. Refer to MIL-PRF-89023, Performance Specification, Digital Nautical Chart, for DNC data dictionary information.

A.3 TOD0 DATA DICTIONARY ORGANIZATION

A.3.1 <u>Data dictionary organization</u>.

a. The data provided in these appendices are organized according to VPF structure levels. The TOD0 database tables appear first, as described in MIL-PRF-89049, Appendix B. The information provided in the database tables applies to the entire database. The TOD0 database contains only data libraries (containing the product data) described in Appendix B of this document.

b. Herein, Appendix B contains the data coverages and the library reference coverage. For each coverage there is a series of tables that describe the data in that coverage. Listed for each coverage is the character value description table, integer value description table, feature tables, feature class attribute table, and feature class schema table.

c. Appendix C contains two consolidated listings of the TOD0 features and attributes with page numbers herein, along with their respective feature types for the TOD0 libraries. They are designed as an index to the TOD0 features and attributes. The first is a table of the TOD0 coverages, with their FACC feature names and codes, their associated attribute names and codes, and the page numbers of their respective primitive type feature tables. The second is a similar consolidated listing of all the TOD0 features sorted by FACC feature code, without their associated attributes.

TACTICAL OCEAN DATA LEVEL 0 (TOD0) DATABASE LIBRARIES COVERAGES AND CONTENTS

B.1   SCOPE

This appendix describes the thematic coverage directory record layout for TOD0 data. It is a mandatory part of this specification. The information contained herein is intended for compliance.

B.2   APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

B.3   TOD0

B.3.1 General. Appendix B contains the data coverages and the libref coverage for TOD0. For each coverage there is a series of tables that describe the data in that coverage. Listed for each coverage is the character value description table, integer value description table, feature tables, feature class attribute table, and feature class schema table. As shown in Table B-1, this appendix details 3 of the 4 data coverages contained in the TOD0 product. The Data Quality coverage is described in MIL-PRF-89049, Appendix E.

TABLE B-1. TOD0 data coverages.

Aeronautical coverage	(aer)
Data Quality coverage	(dq)
Earth Cover coverage	(ecr)
Maritime coverage	(mar)

B.3.1.1 Data quality minimum size. For the data quality coverage, the minimum collection area size is 15,625 square meters.

B.3.2 **Aeronautical Coverage.**

This coverage contains Aeronautical features of significance to naval operations. This coverage is tiled.

TABLE B-2 Aeronautical Character Value Description Table

Thematic Layer: Aeronautical
Coverage Name: aer
Feature Table Description: Aeronautical Character Value Description Table
Table Name: char.vdt

```
{Header length}L;
Aeronautical Character Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,6,N,Column Name,-,-,-,:
value=T,5,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

1	aerop.pft	f_code	GA035	NAVAIDS (Aeronautical)
2	aerop.pft	f_code	GA055	Waypoint (Reporting-Calling In Point)
3	aerop.pft	chl	UNK	Unknown
4	aerop.pft	mca	UNK	Unknown
5	aerop.pft	nam	UNK	Unknown
6	aspa.aft	f_code	GA005	Airspace
7	aspa.aft	f_code	GA015	Special Use Airspace
8	aspa.aft	nam	UNK	Unknown
9	aspa.aft	sua	UNK	Special Use Airspace Altidude Limits
10	fca	type	P	Point/Node Feature
11	fca	type	A	Area Feature

TABLE B-3 Aeronautical Integer Value Description Table

Thematic Layer: Aeronautical
Coverage Name: aer
Feature Table Description: Aeronautical Integer Value Description Table
Table Name: int.vdt

```
{Header length}L;
Aeronautical Integer Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,3,N,Column Name,-,-,-,:
value=S,1,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

1	aerop.pft	acc	1	Accurate
2	aerop.pft	acc	2	Approximate
3	aerop.pft	lfa	10	Rotating Beacon
4	aerop.pft	lfa	999	Not Applicable
5	aerop.pft	mag	-32767	Unknown
6	aerop.pft	nst	0	Unknown
7	aerop.pft	nst	17	Non-Directional Radio Beacon (NDB)
8	aerop.pft	nst	20	VHF Omni Directional Radio Range (VOR)
9	aerop.pft	nst	21	VHF Omni Directional (VOR/DME)
10	aerop.pft	nst	22	VHF Omni Directional (VORTAC)
11	aerop.pft	nst	23	Tactical Air Navigation (TACAN)
12	aerop.pft	orc	-32767	Unknown
13	aerop.pft	wpt	0	Unknown
14	aerop.pft	wpt	5	Non-essential waypoint
15	aerop.pft	wpt	10	ATC compulsory waypoint
16	aspa.aft	aua	0	Unknown
17	aspa.aft	aua	2	Air Defense Identification Zone (ADIZ)
18	aspa.aft	aua	9	Control Area (CTLZ)
19	aspa.aft	aua	13	Flight Information Region (FIR)
20	aspa.aft	aua	20	Military Operations Area (MOA)
21	aspa.aft	aua	21	Military Terminal Control Area (MTCA)
22	aspa.aft	aua	22	Military Upper Control Area (MUCA)
23	aspa.aft	aua	23	Oceanic Control Area (Non-FAA) (OCA)
24	aspa.aft	aua	34	Terminal Control Area (TCA)
25	aspa.aft	aua	36	Special Operations Area (Air)
26	aspa.aft	aua	39	Upper Control Area (UTA)
27	aspa.aft	aua	40	Upper Flight Information Region (UIR)
28	aspa.aft	aua	46	Controlled Airspace
29	aspa.aft	aua	70	Oceanic Control Area (FAA) (OCA)
30	aspa.aft	aua	79	Special Use Airspace Exclusions
31	aspa.aft	aua	998	Not Applicable
32	aspa.aft	aul	0	Unknown

TABLE B-3 Aeronautical Integer Value Description Table (continued)

33	apsa.aft	aul	2	Prohibited Area
34	aspa.aft	aul	3	Restricted Area
35	aspa.aft	aul	5	Alert Area
36	aspa.aft	aul	6	Warning Area
37	aspa.aft	aur	5	Air Corridor
38	áspa.aft	aur	998	Not Applicable
39	aspa.aft	icl	0	Unknown
40	aspa.aft	icl	1	Class A
41	aspa.aft	icl	2	Class B
42	aspa.aft	icl	3	Class C
43	aspa.aft	icl	4	Class D
44	aspa.aft	icl	5	Class E
45	aspa.aft	icl	6	Class F
46	aspa.aft	icl	7	Class G
47	aspa.aft	icl	998	Not Applicable

TABLE B-4 <u>Aeronautical Point Feature Table</u>

Thematic Layer: Aeronautical
Coverage Name: aer
Feature Table Description: Aeronautical Point Feature Table
Table Name: aerop.pft
Thematic Index ID Number: 1

```
{Header length}L;
Aeronautical Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.pti,-,:
acc=S,1,N,Accuracy Category,int.vdt,acc1.pti,-,:
chl=T,5,N,Channel Number,char.vdt,-,-,:
lfa=S,1,N,Light Function Aeronautical,int.vdt,-,-,:
mag=S,1,N,Magnetic Variation,int.vdt,-,-,:
mca=T,5,N,Morse Code Attribute,char.vdt,-,-,:
nam=T,*,N,Name,char.vdt,-,-,:
nst=S,1,N,Navigation System Types,int.vdt,nst1.pti,-,:
orc=S,1,N,Operating Range Category,int.vdt,-,-,:
wpt=S,1,N,Waypoint Description Code,int.vdt,wpt1.pti,-,:
tile_id=S,1,N,Tile Reference ID,-,til1_id.pti,-,:
end_id=I,1,N,Entity Node Primitive ID,-,end1_id.pti,-,:;
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier		Sequential beginning with 1	
f_code	FACC Feature Code			
		GA035	NAVAIDS (Aeronautical)	
		GA055	Waypoint (Reporting-Calling In Point)	
acc	Accuracy Category			
		-32768	Null	GA055
	default	1	Accurate	GA035
		2	Approximate	GA035
chl	Channel Number			
		N/A	Null	GA055
	default	UNK	Unknown	GA035
		Character	text string	GA035
lfa	Light Function Aeronautical			
	default	-32768	Null	GA055
		10	Rotating Beacon	GA035
		999	Not Applicable	GA035

mag   Magnetic Variation
          default   -32767   Unknown   GA035,GA055
                               >=-180 and Actual Value   GA035,GA055
                               <=180

mca   Morse Code Attribute
                               N/A   Null   GA055
          default   UNK   Unknown   GA035
                               Character text string   GA035

nam   Name
          default   UNK   Unknown   GA035,GA055
                               Character text string   GA035,GA055

nst   Navigation System Types
                               -32768   Null   GA055
          default   0   Unknown   GA035
                               17   Non-Directional Radio Beacon   GA035
                                           (NDB)
                               20   VHF Omni Directional Radio   GA035
                                           Range (VOR)
                               21   VHF Omni Directional   GA035
                                           (VOR/DME)
                               22   VHF Omni Directional (VORTAC)   GA035
                               23   Tactical Air Navigation   GA035
                                           (TACAN)

orc   Operating Range Category   [nautical miles]
                               -32768   Null   GA055
          default   -32767   Unknown   GA035
                               >=1 and   Actual Value   GA035
                               <=1000

wpt   Waypoint Description Code
          default   0   Unknown   GA035,GA055
                               5   Non-essential waypoint   GA035,GA055
                               10   ATC compulsory waypoint   GA035,GA055

TABLE B-5 Airspace Area Feature Table

Thematic Layer: Aeronautical
Coverage Name: aer
Feature Table Description: Airspace Area Feature Table
Table Name: aspa.aft
Thematic Index ID Number: 2

```
{Header length}L;
Airspace Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.ati,-,:
aua=S,1,N,ATS Use Attribute,int.vdt,aua2.ati,-,:
aul=S,1,N,Airspace Use Limitations,int.vdt,aul2.ati,-,:
aur=S,1,N,Airspace Use Routes,int.vdt,-,-:
icl=S,1,N,ICAO Airspace Classification,int.vdt,icl2.ati,-,:
nam=T,*,N,Name,char.vdt,-,-,:
sua=T,*,N,Special Use Airspace Altitude Limits,char.vdt,-,-,:;
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier		Sequential beginning with 1	
f_code	FACC Feature Code			
		GA005	Airspace	
		GA015	Special Use Airspace	
aua	ATS Use Attribute			
		0	Unknown	GA005
		2	Air Defense Identification Zone (ADIZ)	GA005
		9	Control Zone (CTLZ)	GA005
		13	Flight Information Region (FIR)	GA005
		20	Military Operations Area (MOA)	GA005
		21	Military Terminal Control Area (MTCA)	GA005
		22	Military Upper Control Area (MUCA)	GA005
		23	Oceanic Control Area (Non-FAA) (OCA)	GA005
		34	Terminal Control Area (TCA)	GA005
		36	Special Operations Area (Air)	GA005
		39	Upper Control Area (UTA)	GA005
		40	Upper Flight Information Region (UIR)	GA005
		46	Controlled Airspace	GA005
		70	Oceanic Control Area (FAA)	GA005

```
                     (OCA)
           79          Special Use Airspace        GA015
                       Exclusions
           998         Not Applicable              GA005,GA015
```

aul   Airspace Use Limitations
```
           -32768      Null                        GA005
           0           Unknown                     GA015
           2           Prohibited Area             GA015
           3           Restricted Area             GA015
           5           Alert Area                  GA015
           6           Warning Area                GA015
```

aur   Airspace Use Routes
```
           -32768      Null                        GA015
           5           Air Corridor                GA005
           998         Not Applicable              GA005
```

icl   ICAO Airspace Classification
```
           -32768      Null                        GA015
           0           Unknown                     GA005
           1           Class A                     GA005
           2           Class B                     GA005
           3           Class C                     GA005
           4           Class D                     GA005
           5           Class E                     GA005
           6           Class F                     GA005
           7           Class G                     GA005
           998         Not Applicable              GA005
```

nam   Name
```
           UNK         Unknown                     GA005,GA015
           Character text string                   GA005,GA015
```

sua   Special Use Airspace Altitude Limits
```
           UNK         Unknown                     GA005,GA015
           Character text string                   GA005,GA015
```

TABLE B-6 Aeronautical Feature Class Attribute Table

Thematic Layer: Aeronautical
Coverage Name: aer
Feature Table Description: Aeronautical Feature Class Attribute Table
Table Name: fca

```
{Header length}L;
Aeronautical Feature Class Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
fclass=T,8,U,Feature Class Name,-,-,-,:
type=T,1,N,Feature Type,char.vdt,-,-,:
descr=T,*,N,Description,-,-,-,:;
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier		Sequential beginning with 1	
fclass	Feature Class Name			
		aerop		
		aspa		
type	Feature Type			
		P	Point/Node Feature	
				aerop
		A	Area Feature	
				aspa
descr	Description			
		Aeronautical Point Feature		aerop
		Airspace Area Feature		aspa

TABLE B-7   Content and Format for Aeronautical Feature Class Schema
            Table

Thematic Layer: Aeronautical
Coverage Name: aer
Feature Table Description: Aeronautical Feature Class Schema Table
Table Name: fcs

```
{Header length}L;
Aeronautical Feature Class Schema Table;-;
id=I,1,P,Row Identifier,-,-,-,:
feature_class=T,8,N,Name of Feature Class,-,-,-,:
table1=T,12,N,First Table,-,-,-,:
table1_key=T,16,N,Column Name in First Table,-,-,-,:
table2=T,12,N,Second Table,-,-,-,:
table2_key=T,16,N,Column Name in Second Table,-,-,-,:;
```

1	aerop	aerop.pft	end_id	end	id
2	aerop	end	id	aerop.pft	end_id
3	aerop	aerop.pft	id	aerop.njt	aerop.pft_id
4	aerop	aerop.njt	notes.rat_id	notes.rat	id
5	aerop	notes.rat	id	aerop.njt	notes.rat_id
6	aerop	aerop.njt	aerop.pft_id	aerop.pft	id
7	aspa	aspa.aft	id	aspa.ajt	aspa.aft_id
8	aspa	aspa.ajt	fac_id	fac	id
9	aspa	fac	id	aspa.ajt	fac_id
10	aspa	aspa.ajt	aspa.aft_id	aspa.aft	id
11	aspa	aspa.aft	id	aspa.njt	aspa.aft_id
12	aspa	aspa.njt	notes.rat_id	notes.rat	id
13	aspa	notes.rat	id	aspa.njt	notes.rat_id
14	aspa	aspa.njt	aspa.aft_id	aspa.aft	id

B.3.3 **Earth Cover Coverage.**

This coverage contains miscellaneous features of significance to marine navigation. This coverage is tiled.

TABLE B-8 Earth Cover Character Value Description Table

Thematic Layer: Earth Cover
Coverage Name: ecr
Feature Table Description: Earth Cover Character Value Description Table
Table Name: char.vdt

{Header length}L; Earth Cover Character Value Description Table;-; id=I,1,P,Row Identifier,-,-,-,: table=T,12,N,Name of the Feature Table,-,-,-,: attribute=T,6,N,Column Name,-,-,-,: value=T,5,N,Unique Value of Attribute,-,-,-,: description=T,*,N,Description of Value,-,-,-,:;				
1	ecrtext.tft	f_code	ZD040	Named Location
2	fca	type	T	Text Feature

TABLE B-9 <u>Earth Cover Text Feature Table</u>

```
Thematic Layer:            Earth Cover
Coverage Name:             ecr
Feature Table Description: Earth Cover Text Feature Table
Table Name:                ecrtext.tft
Thematic Index ID Number:  1
```

```
{Header length}L;
Earth Cover Text Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:;
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier		Sequential beginning with 1	
f_code	FACC Feature Code			
		ZD040	Named Location	

TABLE B-10 <u>Earth Cover Feature Class Attribute Table</u>

Thematic Layer: Earth Cover
Coverage Name: ecr
Feature Table Description: Earth Cover Feature Class Attribute Table
Table Name: fca

```
{Header length}L;
Earth Cover Feature Class Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
fclass=T,8,U,Feature Class Name,-,-,-,:
type=T,1,N,Feature Type,char.vdt,-,-,:
descr=T,*,N,Description,-,-,-,:;
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier	Sequential beginning with 1		
fclass	Feature Class Name			
		ecrtext		
type	Feature Type			
		T	Text Feature	
				ecrtext
descr	Description			
			Earth Cover Text Feature	ecrtext

TABLE B-11   Content and Format for Earth Cover Feature Class Schema
Table

Thematic Layer: Earth Cover
Coverage Name: ecr
Feature Table Description: Earth Cover Feature Class Schema Table
Table Name: fcs

```
{Header length}L;
Earth Cover Feature Class Schema Table;-;
id=I,1,P,Row Identifier,-,-,-,:
feature_class=T,8,N,Name of Feature Class,-,-,-,:
table1=T,12,N,First Table,-,-,-,:
table1_key=T,16,N,Column Name in First Table,-,-,-,:
table2=T,12,N,Second Table,-,-,-,:
table2_key=T,16,N,Column Name in Second Table,-,-,-,:;
```

1	ecrtext	ecrtext.tft	id	ecrtext.tjt	ecrtext.tft_id
2	ecrtext	ecrtext.tjt	txt_id	txt	id
3	ecrtext	txt	id	ecrtext.tjt	txt_id
4	ecrtext	ecrtext.tjt	ecrtext.tft_id	ecrtext.tft	id

B.3.4 **Maritime Coverage.**
This coverage contains water boundaries and limits of specified areas of significance to naval operations. This coverage is tiled.

TABLE B-12 Maritime Character Value Description Table

Thematic Layer: Maritime
Coverage Name: mar
Feature Table Description: Limits Character Value Description Table
Table Name: char.vdt

```
{Header length}L;
Maritime Character Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,6,N,Column Name,-,-,-,:
value=T,5,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

1	maritimp.pft	f_code	BG010	Current Flow
2	maritimp.pft	f_code	ZB035	Control Point/Control Station
3	maritimp.pft	nam	UNK	Unknown
4	maritiml.lft	f_code	FC021	Maritime Limit Boundary
5	maritiml.lft	f_code	FC101	Theodolite Line
6	maritiml.lft	f_code	FC102	Range Center Line
7	maritima.aft	f_code	FC031	Maritime Area
8	maritima.aft	f_code	FC036	Restricted Area
9	maritima.aft	f_code	FC170	Safety Fairway
10	maritima.aft	nam	UNK	Unknown
11	maritima.aft	txt	N_A	Not Applicable
12	fca	type	P	Point/Node Feature
13	fca	type	L	Line Feature
14	fca	type	A	Area Feature

TABLE B-13 Maritime Integer Value Description Table

Thematic Layer: Maritime
Coverage Name: mar
Feature Table Description: Maritime Integer Value Description Table
Table Name: int.vdt

```
{Header length}L;
Maritime Integer Value Description Table;-;
id=I,1,P,Row Identifier,-,-,-,:
table=T,12,N,Name of the Feature Table,-,-,-,:
attribute=T,3,N,Column Name,-,-,-,:
value=S,1,N,Unique Value of Attribute,-,-,-,:
description=T,*,N,Description of Value,-,-,-,:;
```

1	maritimp.pft	coe	1	Definite
2	maritimp.pft	coe	2	Doubtful
3	maritimp.pft	coe	3	Reported
4	maritimp.pft	cur	0	Unknown
5	maritimp.pft	cur	5	Ocean
6	maritimp.pft	hs1	0	Unknown
7	maritimp.pft	hs1	1	Jan
8	maritimp.pft	hs1	2	Feb
9	maritimp.pft	hs1	3	Mar
10	maritimp.pft	hs1	4	Apr
11	maritimp.pft	hs1	5	May
12	maritimp.pft	hs1	6	Jun
13	maritimp.pft	hs1	7	Jul
14	maritimp.pft	hs1	8	Aug
15	maritimp.pft	hs1	9	Sep
16	maritimp.pft	hs1	10	Oct
17	maritimp.pft	hs1	11	Nov
18	maritimp.pft	hs1	12	Dec
19	maritimp.pft	hs2	0	Unknown
20	maritimp.pft	hs2	1	Jan
21	maritimp.pft	hs2	2	Feb
22	maritimp.pft	hs2	3	Mar
23	maritimp.pft	hs2	4	Apr
24	maritimp.pft	hs2	5	May
25	maritimp.pft	hs2	6	Jun
26	maritimp.pft	hs2	7	Jul
27	maritimp.pft	hs2	8	Aug
28	maritimp.pft	hs2	9	Sep

TABLE B-13 Maritime Integer Value Description Table (continued)

29	maritimp.pft	hs2	10	Oct
30	maritimp.pft	hs2	11	Nov
31	maritimp.pft	hs2	12	Dec
32	maritimp.pft	sta	0	Unknown
33	maritimp.pft	sta	38	Theodolite Station
34	maritimp.pft	sta	39	Camera Station
35	maritimp.pft	sta	40	RADAR Target
36	maritimp.pft	sta	41	SONAR Target
37	maritimp.pft	sta	42	UQC/WQC Station
38	maritimp.pft	sta	43	UEWS
39	maritimp.pft	sta	44	BOMIS
40	maritimp.pft	sta	45	Transit Hut
41	maritimp.pft	sta	46	FORACS Transducer 77 (FT77)
42	maritimp.pft	sta	47	NMH
43	maritiml.lft	mbl	0	Unknown
44	maritiml.lft	mbl	6	Territorial Waters-Limit of Sovereignty
45	maritiml.lft	mbl	16	Gulf Stream Limits
46	maritiml.lft	mbl	17	Three Nautical Mile Limit
47	maritiml.lft	mbl	18	Approximate Bathymetry
48	maritima.aft	cod	1	Limits and Information Known
49	maritima.aft	cod	2	Limits and Information Unknown
50	maritima.aft	mac	0	Unknown
51	maritima.aft	mac	27	Submarine Exercise Area
52	maritima.aft	mac	28	Mine Laying Practice Area
53	maritima.aft	mac	101	Marine Sanctuary
54	maritima.aft	mac	104	Major Navy Operating Area
55	maritima.aft	mac	105	Minor Navy Operating Area
56	maritima.aft	mac	106	ASW Operating Area
57	maritima.aft	mac	107	Submarine Operating Area
58	maritima.aft	mac	108	Submarine Transit Lane (Submerged)
59	maritima.aft	mac	109	Submarine Transit Lane (Surface)
60	maritima.aft	mac	110	Surface Free Lane
61	maritima.aft	mac	111	Sea Test Range
62	maritima.aft	mac	115	Submarine and Gunnery Exercise Area
63	maritima.aft	mac	116	Named Operating Area
64	maritima.aft	mac	140	Exercise Area Limit

TABLE B-13 Maritime Integer Value Description Table (continued)

65	maritima.aft	mac	141	Unexploded Ordinance
66	maritima.aft	mac	142	Submarine Warning Area
67	maritima.aft	mac	143	Naval Operations Area
68	maritima.aft	mac	144	Inwater Tracking Range
69	maritima.aft	mac	145	FORACS V Limits
70	maritima.aft	mac	146	Missile Test Area
71	maritima.aft	mac	147	Bombing and Strafing Targets Area
72	maritima.aft	mac	148	Drill Minefield
73	maritima.aft	mac	149	Abandoned Drill Minefield
74	maritima.aft	mac	150	Acronym Area - Purple
75	maritima.aft	mac	151	Acronym Area - Brown
76	maritima.aft	mac	152	Acronym Area - Blue
77	maritima.aft	mac	153	Landing Craft Air Cushion (LCAC)
78	maritima.aft	mac	154	Area FOXTROT
79	maritima.aft	mac	155	Submarine Danger Area
80	maritima.aft	mac	156	Surface Ship Safety Lane
81	maritima.aft	mac	157	Atlantic Fleet Weapons Range
82	maritima.aft	mac	158	Naval Defense Sea Area
83	maritima.aft	mac	159	UQC/WQC Test Area
84	maritima.aft	mac	999	Other

TABLE B-14   Maritime Point Feature Table

Thematic Layer: Maritime
Coverage Name: mar
Feature Table Description: Maritime Point Feature Table
Table Name: maritimp.pft
Thematic Index ID Number: 1

```
{Header length}L;
Maritime Point Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code1.pti,-,:
coe=S,1,N,Certainty of Existence,int.vdt,-,-,:
crn=F,1,N,Current Rate Minimum,-,crn1.pti,-,:
crx=F,1,N,Current Rate Maximum,-,crx1.pti,-,:
cur=S,1,N,Current Type Category,int.vdt,-,-,:
dof=S,1,N,Direction of Flow,-,dof1.pti,-,:
hs1=S,1,N,Current Information (1),int.vdt,-,-,:
hs2=S,1,N,Current Information (2),int.vdt,-,-,:
nam=T,30,N,Name,char.vdt,-,-,:
sta=S,1,N,Station Type Category (Maritime),int.vdt,sta1.pti,-,-,:
tile_id=S,1,N,Tile Reference ID,-,til1_id.pti,-,:
end_id=I,1,N,Entity Node Reference ID,-,end1_id.pti,-,:;
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier		Sequential beginning with 1	
f_code	FACC Feature Code			
		BG010	Current Flow	
		ZB035	Control Point/Control Station	
coe	Certainty of Existence			
		-32768	Null	ZB035
	default	1	Definite	BG010
		2	Doubtful	BG010
		3	Reported	BG010

crn   Current Rate Minimum

		NaN	Null	ZB035
default		-32767.0	Unknown	BG010
		0.1 to	Actual value to the	BG010
		1000.0	nearest .1 knot	

crx   Current Rate Maximum

		NaN	Null	ZB035
default		-32767.0	Unknown	BG010
		0.1 to	Actual value to the	BG010
		1000.0	nearest .1 knot	

cur   Current Type Category

		-32768	Null	ZB035
default		0	Unknown	BG010
		5	Ocean	BG010

dof   Direction of Flow

		-32768	Null	ZB035
default		0	Unknown	BG010
		1 to 360	Actual value (degrees)	BG010

hs1   Current Information (1)

		-32768	Null	ZB035
default		0	Unknown	BG010
		1	Jan	BG010
		2	Feb	BG010
		3	Mar	BG010
		4	Apr	BG010
		5	May	BG010
		6	Jun	BG010
		7	Jul	BG010
		8	Aug	BG010
		9	Sep	BG010
		10	Oct	BG010
		11	Nov	BG010
		12	Dec	BG010

hs2   Current Information (2)

		-32768	Null	ZB035
default		0	Unknown	BG010
		1	Jan	BG010
		2	Feb	BG010
		3	Mar	BG010
		4	Apr	BG010
		5	May	BG010
		6	Jun	BG010
		7	Jul	BG010
		8	Aug	BG010
		9	Sep	BG010
		10	Oct	BG010
		11	Nov	BG010
		12	Dec	BG010

nam   Name

		N/A	Null	ZB035

```
        default              UNK         Unknown                         BG010
                               text string (e.g., "Gulf Stream")        BG010
 sta    Station Type Category (Maritime)
                             -32768      Null                            BG010
        default              0           Unknown                         ZB035
                             38          Theodolite Station              ZB035
                             39          Camera Station                  ZB035
                             40          RADAR Target                    ZB035
                             41          SONAR Target                    ZB035
                             42          UQC/WQC Station                 ZB035
                             43          UEWS                            ZB035
                             44          BOMIS                           ZB035
                             45          Transit Hut                     ZB035
                             46          FORACS Transducer 77 (FT77)     ZB035
                             47          NMH                             ZB035
```

TABLE B-15 <u>Maritime Line Feature Table</u>

Thematic Layer: Maritime
Coverage Name: mar
Feature Table Description: Maritime Line Feature Table
Table Name: maritiml.lft
Thematic Index ID Number: 2

```
{Header length}L;
Maritime Line Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,f_code2.lti,-,:
mbl=S,1,N,Maritime Boundary Limit,int.vdt,mbl2.lti,-,:
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier	Sequential beginning with 1		
f_code	FACC Feature Code			
		FC021	Maritime Limit Boundary	
		FC101	Theodolite Line	
		FC102	Range Center Line	
mbl	Maritime Boundary Limit			
		-32768	Null	FC101,FC102
	default	0	Unknown	FC021
		6	Territorial Waters-Limit of Sovereignty	FC021
		16	Gulf Stream Limits	FC021
		17	Three Nautical Mile Limit	FC021
		18	Approximate Bathymetry	FC021

TABLE B-16 <u>Maritime Area Feature Table</u>

Thematic Layer: Maritime
Coverage Name: mar
Feature Table Description: Maritime Area Feature Table
Table Name: maritima.aft
Thematic Index ID Number: 3

```
{Header length}L;
Maritime Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
f_code=T,5,N,FACC Feature Code,char.vdt,-,-,:
cod=S,1,N,Certainty of Delineation,int.vdt,cod3.ati,-,:
mac=S,1,N,Maritime Area Category,int.vdt,mac3.ati,-,:
nam=T,*,N,Name,char.vdt,-,-,:
rtt=S,1,N,Route Intended Use,int.vdt,rtt3.ati,-,:
txt=T,*,N,Text Attribute,char.vdt,-,-,:;
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier	Sequential beginning with 1		
f_code	FACC Feature Code			
		FC031	Maritime Area	
		FC036	Restricted Area	
		FC170	Safety Fairway	
cod	Certainty of Delineation			
	default	1	Limits and Information Known	FC031,FC036, FC170
		2	Limits and Information Unknown	FC031,FC036, FC170
mac	Maritime Area Category			
		-32768	Null	FC036,FC170
	default	0	Unknown	FC031
		27	Submarine Exercise Area	FC031
		28	Mine Laying Practice Area	FC031
		101	Marine Sanctuary	FC031
		104	Major Navy Operating Area	FC031
		105	Minor Navy Operating Area	FC031
		106	ASW Operating Area	FC031
		107	Submarine Operating Area	FC031
		108	Submarine Transit Lane (Submerged)	FC031
		109	Submarine Transit Lane (Surface)	FC031
		110	Surface Free Lane	FC031
		111	Sea Test Range	FC031
		115	Submarine and Gunnery	FC031

```
              Exercise Area
        116        Named Operating Area        FC031
        140        Exercise Area Limit         FC031
        141        Unexploded Ordinance        FC031
        142        Submarine Warning Area      FC031
        143        Naval Operations Area       FC031
        144        Inwater Tracking Range      FC031
        145        FORACS V Limits             FC031
        146        Missile Test Area           FC031
        147        Bombing and Strafing Targets
                   Area                        FC031
        148        Drill Minefield             FC031
        149        Abandoned Drill Minefield   FC031
        150        Acronym Area - Purple       FC031
        151        Acronym Area - Brown        FC031
        152        Acronym Area - Blue         FC031
        153        Landing Craft Air Cushion
                   (LCAC)                      FC031
        154        Area FOXTROT                FC031
        155        Submarine Danger Area       FC031
        156        Surface Ship Safety Lane    FC031
        157        Atlantic Fleet Weapons Range FC031
        158        Naval Defense Sea Area      FC031
        159        UQC/WQC Test Area           FC031
        999        Other                       FC031
```

nam   Name
      default   UNK   Unknown   FC031,FC036,
                                                     FC170

                     Character text string   FC031,FC036,
                                                     FC170

txt   Text Attribute
      default   N_A   Not Applicable   FC031,FC036,
                                                     FC170

                     Character text string   FC031,FC036,
                                                     FC170

TABLE B-17 Maritime Feature Class Attribute Table

Thematic Layer: Maritime
Coverage Name: mar
Feature Table Description: Maritime Feature Class Attribute Table
Table Name: fca

```
{Header length}L;
Maritime Feature Class Attribute Table;-;
id=I,1,P,Row Identifier,-,-,-,:
fclass=T,8,U,Feature Class Name,-,-,-,:
type=T,1,N,Feature Type,char.vdt,-,-,:
descr=T,*,N,Description,-,-,-,:;
```

Column	Description	Value	Value Meaning	Applicable f_code for Each Attribute Value
id	Row Identifier		Sequential beginning with 1	
fclass	Feature Class Name			
		maritima		
type	Feature Type			
		A	Area Feature	
				maritima
		L	Line Feature	
				maritiml
		P	Point/Node Feature	
				maritimp
descr	Description			
			Maritime Area Feature	maritima
			Maritime Line Feature	maritiml
			Maritime Point Feature	maritimp

TABLE B-18 <u>Content and Format for Maritime Feature Class Schema Table</u>

Thematic Layer: Maritime
Coverage Name: mar
Feature Table Description: Maritime Feature Class Schema Table
Table Name: fcs

```
{Header length}L;
Maritime Feature Class Schema Table;-;
id=I,1,P,Row Identifier,-,-,-,:
feature_class=T,8,N,Name of Feature Class,-,-,-,:
table1=T,12,N,First Table,-,-,-,:
table1_key=T,16,N,Column Name in First Table,-,-,-,:
table2=T,12,N,Second Table,-,-,-,:
table2_key=T,16,N,Column Name in Second Table,-,-,-,:;
```

1	maritimp	maritimp.pft	end_id	end	id
2	maritimp	end	id	maritimp.pft	end_id
3	maritimp	maritimp.pft	id	maritimp.njt	maritimp.pft_id
4	maritimp	maritimp.njt	notes.rat_id	notes.rat	id
5	maritimp	notes.rat	id	maritimp.njt	notes.rat_id
6	maritimp	maritimp.njt	maritimp.pft_id	maritimp.pft	id
7	maritiml	maritiml.lft	id	maritiml.ljt	maritiml.lft_id
8	maritiml	maritiml.ljt	edg_id	edg	id
9	maritiml	edg	id	maritiml.ljt	edg_id
10	maritiml	maritiml.ljt	maritiml.lft_id	maritiml.lft	id
11	maritiml	maritiml.lft	id	maritiml.njt	maritiml.lft_id
12	maritiml	maritiml.njt	notes.rat_id	notes.rat	id
13	maritiml	notes.rat	id	maritiml.njt	notes.rat_id
14	maritiml	maritiml.njt	maritiml.lft_id	maritiml.lft	id
15	maritima	maritima.aft	id	maritima.ajt	maritima.aft_id
16	maritima	maritima.ajt	fac_id	fac	id
17	maritima	fac	id	maritima.ajt	fac_id
18	maritima	maritima.ajt	maritima.aft_id	maritima.aft	id
19	maritima	maritima.aft	id	maritima.njt	maritima.aft_id
20	maritima	maritima.njt	notes.rat_id	notes.rat	id
21	maritima	notes.rat	id	maritima.njt	notes.rat_id
22	maritima	maritima.njt	maritima.aft_id	maritima.aft	id

B.3.5 **Library Reference Coverage.**

This coverage contains a representation of the TOD0 library boundaries for use in determining a reference position (see section 3.10.3.2). This coverage is untiled.

TABLE B-19 Library Reference Area Feature Table

Thematic Layer: Library Reference
Coverage Name: libref
Feature Table Description: Library Reference Area Feature Table
Table Name: libref.aft
Thematic Index ID Number: 1

```
{Header length}L;
Library Reference Area Feature Table;-;
id=I,1,P,Row Identifier,-,-,-,:
library_name=T,8,N,Library Name,-,-,-,:
fac_id=I,1,N,Face Primitive ID,-,-,-,:;
```

TABLE B-20 Content and Format for Library Reference Feature Class Schema Table

Thematic Layer: Library Reference
Coverage Name: libref
Feature Table Description: Library Reference Feature Class Schema Table
Table Name: fcs

```
{Header length}L;
Library Reference Feature Class Schema Table;-;
id=I,1,P,Row Identifier,-,-,-,:
feature_class=T,8,N,Name of Feature Class,-,-,-,:
table1=T,12,N,First Table,-,-,-,:
table1_key=T,16,N,Column Name in First Table,-,-,-,:
table2=T,12,N,Second Table,-,-,-,:
table2_key=T,16,N,Column Name in Second Table,-,-,-,:;
```

| 1 | libref | libref.aft | fac_id | fac | id |
| 2 | libref | fac | libref.aft_id | libref.aft | id |

TACTICAL OCEAN DATA LEVEL 0 (TOD0) FEATURE AND ATTRIBUTE GLOSSARY

C.1 SCOPE

This appendix contains the feature and attribute content for TOD0 data. It is a mandatory part of this specification. The information contained herein is intended for compliance.

C.2 APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

C.3. FACC Codes by Coverage and Feature Type.

C.3.1 TOD0 feature and attribute data dictionary organization.

    a.   This appendix provides two tables detailing the location and types of features and attributes found in the TOD0 data dictionary. For a coverage there is a series of tables that describe the data in that coverage.

    b.   The first table is an index list by coverage of the FACC feature names and codes, their associated attribute names and codes, and table types with their respective locations by page numbers.

    c.   The second table is a similar consolidated index, but without attributes, sorted by FACC code, of the coverages, FACC feature names and codes, and primitive feature table type location page numbers.

TABLE C-1   TOD0 FACC Feature and Attribute Codes Sorted by Coverage and FACC
Code.

Layer	Feature Name	FACC Code	Attr. Code	END	CND	EDG	FAC	TXT
aer	Airspace	GA005	–				22	
	ATS Use Attribute		aua				x	
	Airspace Use Routes		aur				x	
	ICAO Airspace Classification		icl				x	
	Name		nam				x	
	Special Use Airspace Altitude Limits		sua				x	
aer	Special Use Airspace	GA015	–				22	
	ATS Use Attribute		aua				x	
	Airspace Use Limitations		aul				x	
	Name		nam				x	
	Special Use Airspace Altitude Limits		sua				x	
aer	NAVAIDS (Aeronautical)	GA035	–	20				
	Accuracy Category		acc	x				
	Channel Number		chl	x				
	Light Function Aeronautical		lfa	x				
	Magnetic Variation		mag	x				
	Morse Code Attribute		mca	x				
	Name		nam	x				
	Navigation System Types		nst	x				
	Operating Range Category		orc	x				
	Waypoint Description Code		wpt	x				
aer	Waypoint (Reporting-Calling In Point)	GA055	–	20				
	Magnetic Variation		mag	x				
	Name		nam	x				
	Waypoint Description Code		wpt	x				
ecr	Named Location	ZD040	–					27
mar	Current Flow	BG010		34				
	Certainty of Existence		coe	x				
	Current Rate Minimum		crn	x				
	Current Rate Maximum		crx	x				
	Current Type Category		cur	x				
	Direction of Flow		dof	x				
	Current Information (1)		hs1	x				
	Current Information (2)		hs2	x				
	Name		nam	x				
mar	Maritime Limit Boundary	FC021	–			37		
	Maritime Boundary Limit		mbl			x		

Layer	Feature Name	FACC Code	Attr. Code	END	CND	EDG	FAC	TXT
mar	Maritime Area	FC031	–				38	
	Certainty of Delineation		cod				x	
	Maritime Area Category		mac				x	
	Name		nam				x	
	Text Attribute		txt				x	
mar	Restricted Area	FC036	–				38	
	Certainty of Delineation		cod				x	
	Name		nam				x	
	Text Attribute		txt				x	
mar	Theodolite Line	FC101	–			37		
mar	Range Center Line	FC102	–			37		
mar	Safety Fairway	FC170	–				38	
	Certainty of Delineation		cod				x	
	Name		nam				x	
	Text Attribute		txt				x	
mar	Control Point/Control Station	ZB035	–	34				
	Station Type Category (Maritime)		sta	x				

TABLE C-2   TOD0 FACC Feature Codes Sorted by FACC Code

Layer	FACC Code	Feature Name	END	CND	EDG	FAC	TXT
mar	BG010	Current Flow	34				
mar	FC021	Maritime Limit Boundary			37		
mar	FC031	Maritime Area				38	
mar	FC036	Restricted Area				38	
mar	FC101	Theodolite Line			37		
mar	FC102	Range Center Line			37		
mar	FC170	Safety Fairway				38	
aer	GA005	Airspace				22	
aer	GA015	Special Use Airspace				22	
aer	GA035	NAVAIDS (Aeronautical)	20				
aer	GA055	Waypoint (Reporting-Calling In Point)	20				
mar	ZB035	Control Point/Control Station	34				
ecr	ZD040	Named Location					27

C.3.2 <u>FACC Feature Glossary.</u>

BG010 (L) <u>US-Current Flow UK-Current Flow/Tidal Stream Direction</u>
The flow direction of a current.

FC021 (L) <u>Maritime Limit Boundary</u>
A line where on either side certain activities or factors of significance to navigation and/or operation apply.

FC031 (A) <u>Maritime Area</u>
Area in which certain activities or factors of significance to navigation and/or operation apply.

FC036 (A) <u>Restricted Area</u>
An area in which certain aspects of navigation are restricted.

FC101 (L) <u>Theodolite Line</u>
Lines of known bearing from fixed geographic locations. Used to determine accurate positions of a vessel on certain test ranges.

FC102 (L) <u>Range Center Line</u>
A surveyed reference track marking the center of a test range. Vessels undergoing testing must maintain position along this track.

FC170 (A) <u>Safety Fairway</u>
A route established for the safe passage of vessels through offshore oil and gas fields and minefields.

GA005 (A) <u>Airspace</u>
A designated airspace within which some or all aircraft may be subjected to air traffic control.

GA015 (A) <u>Special Use Airspace</u>
Airspace of defined dimension identified by area on Earth's surface where activities must be confined because of their nature and/or where limitations may be imposed on aircraft operations not associated with those activities.

GA035 (P) <u>NAVAIDS (Aeronautical)</u>
Any visual or electronic device which provides point-to-point guidance information or position data.

GA055 (P) <u>Waypoint (Reporting-Calling In Point)</u>
A predetermined geographical position, used for route instrument approach definition, or progress reporting purposes, or to change frequency, etc.

ZB035 (P) <u>Control Point/Control Station</u>
A temporary object or mark on the ground of known position, elevation, or both.

ZD040 (T) <u>Named Location</u>
A geographic place on the earth, not normally appearing as a feature on a map, but having a name that is required to be placed on a map.

C.3.3 <u>FACC Attribute Glossary.</u>

acc   <u>Accuracy Category</u>
Accuracy of geographic position.

aua   <u>ATS Use Attribute</u>
The particular use of the designated airspace.

aul   <u>Airspace Use Limitations</u>
Airspace wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations.

aur   <u>Airspace Use Routes</u>
A specified route designed for channeling the flow of traffic as necessary for the provision of air traffic services.

chl   <u>Channel Number</u>
The channel representing the frequency assigned by the controlling

cod   <u>Certainty of Delineation</u>
Indicates knowledge of the feature's limits or information.

coe   <u>Certainty of Existence</u>
Indicates knowledge of the feature's existence.

crn   <u>Current Rate Minimum</u>
Minimum speed of current.

crx   <u>Current Rate Maximum</u>
Maximum speed of current.

cur   <u>Current Type Category</u>
The horizontal movement of a body of water.

dof   <u>Direction of Flow</u>
Bearing of movement of direction of the flow.

hs1   <u>Current Information (1)</u>
Month of appearance of the current.

hs2   <u>Current Information (2)</u>
Month of disappearance of the current, if different from HS1.

icl   <u>ICAO Airspace Classification</u>
ICAO designated airspace classification.

lfa   <u>Light Function Aeronautical</u>
Type of lighting provided or type of lighting system used.

mac   <u>Maritime Area Category</u>
Area in which certain activities or factors of significance to navigation or operations apply.

mag   <u>Magnetic Variation</u>
Horizontal angle between true north and magnetic north measured East (positive value) or West (negative value) according to whether magnetic north lies east or west of true north.

mbl   <u>Maritime Boundary Limit</u>
A line where on either side certain activities or factors of significance to navigation or operations apply.

mca   <u>Morse Code Attribute</u>
The ASCII (ISO 646) letter that is being emitted by either the Navigation

Signal Type (NST), Sound Signal Type (SST), Light Characteristic (CHA), or electronic beacon type.

nam Name
Any identifier or code.

orc Operating Range Category [nautical miles]
The range of the Navaid beyond which the capture of the signal is not completely assured.

rtt Route Intended Use
Intended use of the route.

sta Station Type Category (Maritime)
Equipment or activity at site.

sua Special Use Airspace Altitude Limits
Description of the altitude limits of Special Use Airspaces.

txt Text Attribute
Narrative or other description.

wpt Waypoint Description Code
The name/type of a named waypoint.

abs_horiz_acc Absolute Horizontal Accuracy
The absolute horizontal accuracy in meters.

comp_date First Edition Date
The date of original chart compilation (chart edition 1).

datum Hydrographic Datum
The chart hydrographic datum.

edition Chart Edition Number
The chart edition number.

f_code FACC Feature Code
The Feature and Attribute Coding Catalogue identifier.

lineage Chart Lineage
Available information as to the source of the chart data, including dates,device (sounder) used and type of positioning (e.g. GPS).

name Chart Name
The common textual identifier of the chart, usually consisting of a hydrographic feature reference (e.g., "Hampton Roads" or "Cape May to Cape Hatteras").

print_date Chart Edition Date
The chart edition date.

ref_lat Reference Latitude
The latitude noted on the chart to which the chart scale is referenced.

scale Chart Scale
The denominator of the chart scale expressed as a fraction.

source_id Chart Identifier
The five digit code that uniquely identifies a NIMA OPAREA, Range, or Naval Exercise Chart.

source_info General Source Information
Any pertinent information regarding the source chart not included in any other attribute.

Custodian: Preparing Activity
Navy - NO
                                              NIMA - MP
                                              (Project MCGT-0309)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL		

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.

2. The submitter of this form must complete blocks 4, 5, 6, and 7.

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3. **DOCUMENT TITLE**
Tactical Ocean Data – Level 0 (TOD0)

4. **NATURE OF CHANGE** (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. **REASON FOR RECOMMENDATION**

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a. NAME *(Last, First, Middle Initial)*	b. ORGANIZATION	
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